17007

ENVIRO-CHEM
REMEDIAL DESIGN
STATEMENT OF WORK

INTRODUCTION

This statement of work (SOW) defines the activities necessary to accomplish an anticipated work assignment for Remedial Design. This SOW necessarily includes fieldwork for geotechnical borings for alignment and depth of the proposed groundwater collection system; characterization of borrow areas for capping purposes; pump testing; topographic mapping for plan sheets; bench- and pilot-scale testing of treatment systems; and characterization of the additional source area south of ECC.

The first purpose of this SOW is to describe those definable design tasks which may be segregated to allow an earlier preliminary design start date.

The second purpose of this design SOW is to establish the elements and schedule for each presently definable design task element.

TASK SEGREGATION

Field Data Acquisition for Civil Engineering Needs

The NSL/ECC design has two major efforts. One involves primarily civil engineering considerations for which additional field investigations are necessary as follows:

Geotechnical

- Borings along groundwater interception drain for subsurface characterization.
- Installation of piezometers for use in determining dewatering needs.
- Borings and test pits in proposed borrow area to determine characteristics of till for capping purposes.
- Characterization of existing landfill cover.

Hydrogeological

- Pump tests will be performed to define potential groundwater yields to the groundwater interception trench and possible interconnections of sand and gravel lenses.

Topographic mapping

- Aerial photography of the site will be used to prepare an updated topographic map of the site and plan sheets for use during design.

Additional source area

- The additional source area south of ECC will be investigated to characterize extent of contamination, using continuous split spoon borings, and monitoring wells will be installed and sampled.

- Upgradient "background" monitoring wells will be installed.

Treatability Study/Pilot Testing for Treatment Requirements

The second major element of the NSL/ECC design is the definition of treatment needs for which additional field testing is necessary as follows:

Bench-scale or jar testing

- Leachate and groundwater samples will be tested to determine needs for removing metals from leachate and groundwater and effects this may have on residual nutrients and contaminants remaining in the leachate and groundwater.

Pilot testing

- Based upon the completed influent characterization and bench-scale test, a pilot scale test onsite would be run to determine treatment needs that are not evident in laboratory scale tests and to characterize potential performance of the proposed treatment system.

SCHEDULE

The attached preliminary schedule reflects the time frame for execution of the foregoing identified tasks. The anticipated durations reflect past experience with internal and external review requirements, laboratory turnaround, and report preparation requirements. The field efforts and onsite testing (pump test, pilot plant) are best estimates based on field experience and preliminary vendor estimates. The overall civil engineering field effort, data evaluation and report preparation is anticipated to require a 41-week effort. The overall pilot treatment field effort, data evaluation and report preparation is anticipated to require a 66-week effort. With this schedule design of the remaining

civil engineering elements for the NSL/ECC site could commence as early as the fourth quarter of fiscal 1988 and be completed no later than the third quarter of fiscal 1989. Design effort for the treatment system could commence as early as the second quarter of fiscal 1989 and be completed no later than the first quarter of fiscal 1990.

The schedule has time allotted for preparation, review, and award of bids as well as mobilization time for the presently defined tasks. QAPP review and CLP analytical durations are estimated at guidance levels and increases in durations would tend to lengthen the schedule.

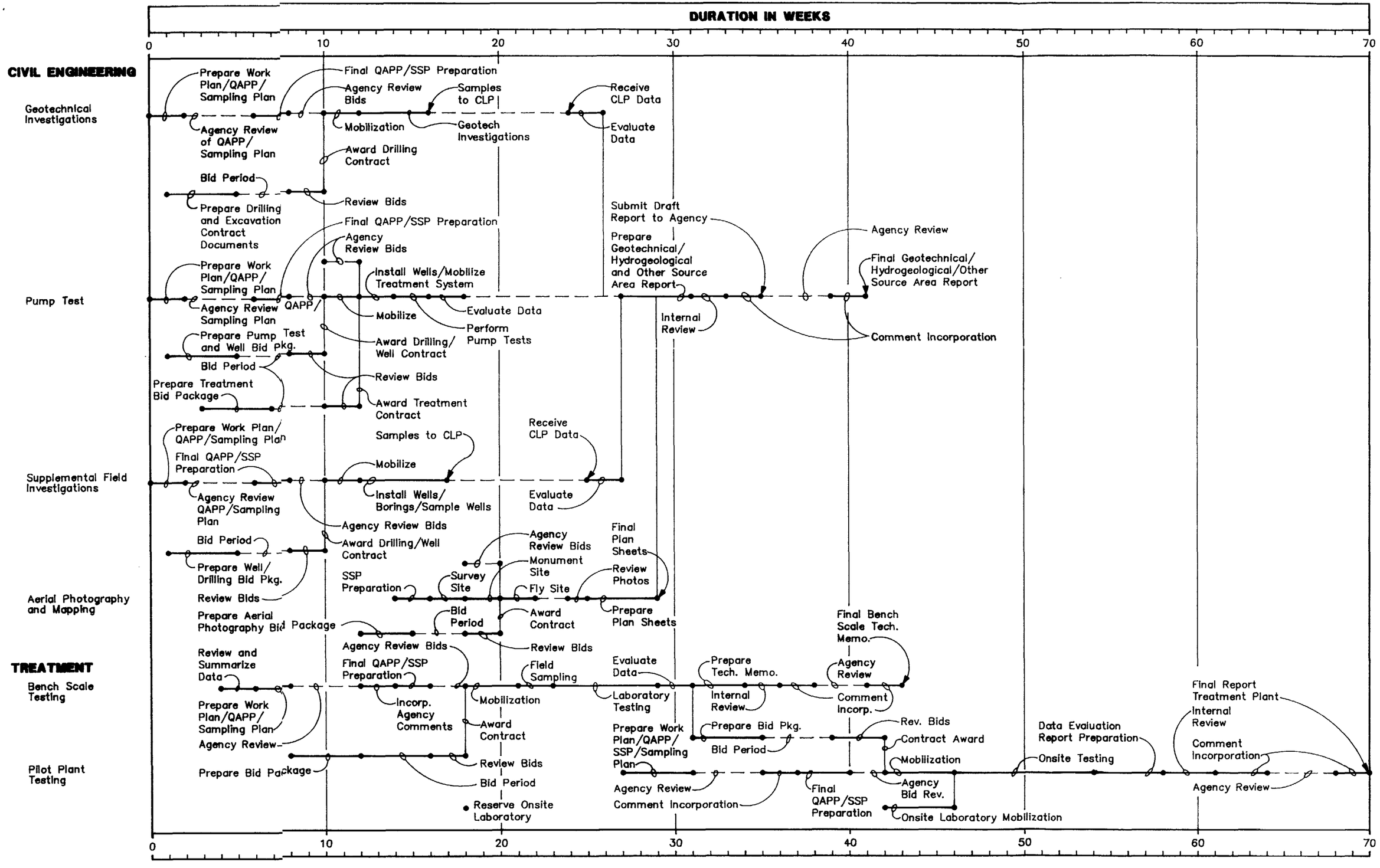
The critical path for completion of the NSL/ECC design is the treatment system pilot testing, treatment system selection, and design.

The other, as yet undefiend, tasks for the design effort may include:

- Preliminary Design (30 percent completion)
- Intermediate Design (60 percent completion)
- Prefinal/Final Design
- Design Support Activities
- Value Engineering
- Community Relations
- Project Closeout

These tasks and those mentioned previously will be more fully developed during preparation of the work plan for the design effort.

GLT718/29



SCHEDULE
NSL REMEDIAL DESIGN

3/2/88

Per Karen Vendl,

Hold until 3rd quarter. They are not ready to begin design activities at this time. She said the original purpose of early commiting the funds was to claim the bean in first quarter she never had any intention of starting project until the 3rd quarter.

G

NORTHSIDE SANITARY LANDFILL
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GLT718/26